

WE CLAIM:

1. A solid detergent composition comprising:
- (a) an effective amount of a cleaning agent to provide soil removal, wherein the cleaning agent comprises at least one of:
 - (i) surfactant;
 - (ii) source of alkalinity;
 - (iii) water conditioning agent; and
 - (iv) enzyme;
 - (b) an effective amount of a binding agent dispersed throughout the solid detergent composition to provide the detergent composition as a solid at room temperature, the binding agent comprising a result of mixing:
 - (i) alkali metal carbonate;
 - (ii) alkali metal bicarbonate; and
 - (iii) water.
2. A solid detergent composition according to claim 1, wherein the binding agent comprises alkali metal sesquicarbonate.
3. A solid detergent composition according to claim 1, wherein at least a portion of said alkali metal bicarbonate is provided as a reaction product of alkali metal carbonate and acid.
4. A solid detergent composition according to claim 1, wherein the composition further comprises a builder comprising sodium tripolyphosphate, sodium nitrilotriacetate, or mixtures thereof.
5. A solid detergent composition according to claim 1, wherein the composition further comprises a builder comprising sodium tripolyphosphate, organic phosphate, amino carboxylate, or mixtures thereof.

6. A solid detergent composition according to claim 1, wherein the cleaning agent comprises a surfactant comprising at least one of a nonionic surfactant, an anionic surfactant, and a mixture thereof.
7. A solid detergent composition according to claim 1, wherein the binding agent has a melting transition temperature of about 110°C to 160°C. *ch spec*
8. A solid detergent composition according to claim 1, wherein the cleaning agent comprises alkali metal carbonate monohydrate and anhydrous alkali metal carbonate.
9. A solid detergent composition according to claim 1, wherein the composition comprises a blend of two or more organophosphonate compounds, a blend of two or more aminoacetate compounds, or a blend of at least one organophosphonate compound and at least one aminoacetate compound.
10. A solid detergent composition according to claim 1, wherein the composition is in the form of a pellet.
11. A solid detergent composition according to claim 1, wherein the solid composition is in the form of a block.
12. A solid detergent composition according to claim 1, wherein the solid composition is in the form of a tablet.
13. A solid detergent composition according to claim 1, wherein the solid composition is in the form of a cast solid.
14. A method for solidifying a detergent composition, the method comprising a step of:

(a) mixing an effective amount of a cleaning agent to provide soil removal and an effective amount of a binding agent to solidify the detergent composition, the cleaning agent comprising at least one of:

- (i) surfactant;
- (ii) source of alkalinity;
- (iii) water conditioning agent; and
- (iv) enzyme;

the binding agent comprising a result of mixing:

- (i) alkali metal carbonate;
- (ii) alkali metal bicarbonate; and
- (iii) water.

15. A method according to claim 14, further comprising a step of:

(a) generating alkali metal bicarbonate by reacting alkali metal carbonate with acid.

16. A method according to claim 15, wherein the acid comprises at least one of citric acid, sulfamic acid, adipic acid, succinic acid, and mixtures thereof.

17. A method according to claim 14, wherein the binding agent comprises alkali metal sesquicarbonate.

18. A method according to claim 14, wherein the step of mixing comprises extruding the composition in an extruder.

19. A method according to claim 14, further comprising a step of:

(a) solidifying the mixture of cleaning agent and binding agent.

20. A method according to claim 14, further comprising a step of:

(a) packaging the mixture of cleaning agent and binding agent.

21. A method according to claim 14, wherein the composition comprises a blend of two or more organophosphonate compounds, a blend of two or more aminoacetate compounds, or a blend of at least one organophosphonate compound and at least one aminoacetate compound.

22. A method according to claim 14, further comprising a step of forming the composition into a pellet.

23. A method according to claim 14, further comprising a step of forming the composition into a block.

24. A method according to claim 14, further comprising a step of forming the composition into a tablet.

25. A method according to claim 14, further comprising a step of forming the composition into a cast solid.

26. A solid detergent composition comprising:

(a) an effective amount of a cleaning agent to provide soil removal, wherein the cleaning agent comprises at least one of:

- (i) surfactant;
- (ii) source of alkalinity;
- (iii) water conditioning agent; and
- (iv) enzyme;

(b) an effective amount of a binding agent dispersed throughout the solid detergent composition to provide the detergent composition as a solid at room temperature, the binding agent comprising a result of mixing:

- (i) alkali metal carbonate;
- (ii) alkali metal bicarbonate;
- (iii) alkali metal sesquicarbonate; and
- (iv) water.

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Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
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- (i) surfactant;
- (ii) source of alkalinity;
- (iii) water conditioning agent; and
- (iv) enzyme;

the binding agent comprising a result of mixing:

- (i) alkali metal carbonate;
- (ii) alkali metal bicarbonate;
- (iii) alkali metal sesquicarbonate; and
- (iv) water.